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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,272	09/05/2000	Eric Honore	1383-00	8032

22469 7590 03/25/2003

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EXAMINER
BUNNER, BRIDGET E

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/655,272	Applicant(s) HONORE ET AL.	
	Examiner Bridget E. Bunner	Art Unit 1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-9, 31-35, 37-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-9,31-35,37-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Status of Application, Amendments and/or Claims

The amendment of 23 December 2002 (Paper No. 15) has been entered in full. Claims 8-9, 31-35, and 37-38 are amended. Claims 1-7, 10-30, 36, and 39-51 are cancelled.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 8-9, 31-35, and 37-38 are under consideration in the instant application.

Withdrawn Objections and/or Rejections

1. The objection to the abstract as set forth at pg 3 of the previous Office Action (Paper No. 12, 19 June 2002) is *withdrawn* in view of the amended abstract (Paper No. 15, 23 December 2002).

2. The objections to the specification as set forth at pg 3-4 of the previous Office Action (Paper No. 12, 19 June 2002) are *withdrawn in part* in view of the amended specification (Paper No. 15, 23 December 2002). Please see section on Specification, below.

3. The objections to claims 31-38 as set forth at pg 4 of the previous Office Action (Paper No. 12, 19 June 2002) are *withdrawn* in view of the amended and cancelled claims (Paper No. 15, 23 December 2002).

4. The rejections to claims 31-38 under 35 U.S.C. § 112, second paragraph, as set forth at pg 7-9 of the previous Office Action (Paper No.12, 19 June 2002) are *withdrawn in part* in view of the amended claims (Paper No. 15, 23 December 2002). Please see section on 35 U.S.C. § 112, second paragraph, below.

5. The rejection of claims 31-38 under 35 U.S.C. § 103(a) as set forth at pg 9-11 of the previous Office Action (Paper No. 12, 19 June 2002) is *withdrawn* in view of the amended claims (Paper No. 15, 23 December 2002).

Information Disclosure Statement

6. Applicant asserts that the IDS filed 05 September 2000 (Paper No. 4) complies with the Rules and argues that there is a statement in the IDS that the enclosed publications are related in view of their mention in the Search Report for parent PCT/FR99/00404. Applicant's argument has been fully considered and is found persuasive. However, Applicant must submit a new PTO-1449 form that lists the FR 2772730 reference so it can be initialed by the Examiner.

Priority

7. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The disclosure is objected to because of the following informalities:

8. The Brief Description of Drawings for Figure 2 refers to four amino acid sequences, but disclosed sequences are not accompanied by the required reference to the relevant sequence identifiers. The basis for the objection is set forth at pg 3 of the previous Office Action (Paper No. 12, 19 June 2002).

Applicant's arguments (Paper No. 15,23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons. Applicant asserts that the "Brief Description of Drawings" section has been amended in

accordance with the examiner's suggestions. Applicant's arguments have been fully considered but are not found to be persuasive. Specifically, Applicant has not amended the Brief Description of Drawings for Figure 2 to refer to the relevant sequence identifiers for TWIK-1, TREK-1, TASK, and TRAAK. Applicant is reminded that this application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). Applicant must comply with the requirements of the sequence rules (37 CFR 1.821 - 1.825).

9. At pg 6-7, the specification refers to TREK-1 as having the amino acid sequence of SEQ ID NO: 2. However, the paper copy of the sequence listing has the amino acid sequence of SEQ ID NO: 2 as being TRAAK (which matches the amino acid sequence of TRAAK in Figures 1-2 and SEQ ID NO: 1). According to the paper copy of the sequences, the amino acid sequence of TREK-1 is SEQ ID NO: 4 (which matches the amino acid sequence of TREK in Figure 2) and not SEQ ID NO: 2. Please also note that at pg 7, lines 12-13, SEQ ID NO: 2 is an amino acid sequence and not a nucleic acid sequence. The basis for the objection is set forth at pg 4 of the previous Office Action (Paper No. 12, 19 June 2002).

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons. Applicant contends that the specification has been amended at pg 6-7 in accordance with the examiner's suggestion to provide the proper SEQ ID NO and to recite the presence of an amino acid sequence. Applicant's arguments have been fully considered but are not found to be persuasive. The specification at page 7, lines 7-13, still refers to TREK-1 has having the amino

acid sequence of SEQ ID NO: 2 (see especially lines 9, 11, and 13). According to the paper copy of the sequences and the Figures, TREK-1 has the amino acid sequence of SEQ ID NO: 4 and not SEQ ID NO: 2.

Claim Rejections - 35 USC § 112, first paragraph

10. Claims 8-9, 31-35, and 37-38 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for screening substances capable of modulating the activation of a purified mechanosensitive potassium channel having the amino acid sequence set forth in SEQ ID NO: 2 or 4, which comprises: (a) transferring the purified nucleic acid sequence of SEQ ID NO: 1, the nucleic acid sequence comprising nucleotides 284-1477 of SEQ ID NO: 1, or the nucleic acid sequence that encodes the channel consisting of the amino acid sequence of SEQ ID NO: 2 or 4 into a cellular host; (b) culturing said host under suitable conditions for expression of said channel; (c) bringing into contact the substance to be screened with said host expressing said channel; and (d) measuring the potassium current of said channel, wherein an increase or decrease in potassium current indicates modulation of activation of said channel, does not reasonably provide enablement for a method for screening substances capable of modulating the activity of a purified TRAAK channel protein which comprises: (a) transferring a purified nucleic acid sequence or a functionally equivalent derivative that encodes TRAAK potassium channel protein; (b) culturing the host under conditions for expression of TRAAK potassium channel; (c) reacting selected amounts of the substance to be screened with the cellular host; and (d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the

invention commensurate in scope with these claims. The basis for this rejection under 35 U.S.C. § 112, first paragraph is set forth for claims 31-38 at pg 4-7 of the previous Office Action (Paper No. 12, 19 June 2002).

The claims also recite that the purified nucleic acid sequence comprises the sequence between nucleotides 284-1477 of the sequence set forth in SEQ ID NO: 1 or the sequence between nucleotides 484 to 1596 of the sequence set forth in SEQ ID NO: 2.

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons.

Applicant asserts that the amendments to claims 34-35 render this rejection moot. Applicant argues that with respect to the remaining claims, they have been amended to recite the purified TRAAK channel protein which is fully enabled. Applicant submits that those of ordinary skill in the art need not concern themselves with other distinct channels. Applicant states that those of skill in the art only need to concern themselves with the TRAAK channel, for which Applicant argues has guidance and a working example in the specification. Applicant cites *Ex parte Forman*, 230 USPQ 546, 547 (Board of Appeals 1986) to emphasize that no "undue" experimentation is necessary to practice the claimed invention. Applicant also contends that the state of the art is quite advanced and that one of ordinary skill in the art would be fully enabled to practice the subject matter as recited in the claims based on the guidance provided in the specification.

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following

reasons. According to MPEP § 2164.06, "the guidance and ease in carrying out an assay to achieve the claimed objectives may be an issue to be considered in determining the quantity of experimentation needed. For example, if a very difficult and time consuming assay is needed to identify a compound within the scope of the claim, then this great quantity of experimentation should be considered in the overall analysis". The specification of the instant application does not teach screening for substances capable of modulation of potassium channel activation using any potassium channels other than full-length TREK-1 (SEQ ID NO: 4) and TRAAK (SEQ ID NO: 2). The specification only teaches screening for substances by transferring a purified nucleic acid sequence represented by SEQ ID NO: 1 or nucleic acids 284-1477 of SEQ ID NO: 1 (which encode the mature protein) into a cellular host (pg 14-19). It is noted that the Examiner cited Chavez et al. and Lehmann-Horn et al. to indicate the state of the art at the time the invention was made. Specifically, that potassium channels are structurally and functionally diverse.

Although methods in the receptor/channel/transporter field may require some experimentation, regarding the instant application, undue experimentation would be required of the skilled artisan to screen all possible TRAAK channel proteins and their derivatives with all possible substances. For example, claims 31-33 and 37-38 recite transferring any purified nucleic acid sequence that encodes the TRAAK potassium channel protein into a cellular host. The claims read on any TRAAK channel protein and any functional and non-functional derivatives, which can encompass proteins with diverse amino acid and nucleic acid sequences. Specifically, as discussed in the previous Office Action, the problem of predicting protein and DNA structure from sequence data and in turn utilizing predicted structural determinations to

ascertain functional aspects of the protein and DNA is extremely complex. Certain positions in the amino acid sequence are critical to the protein's structure/function relationship, e.g. such as various sites or regions directly involved in binding, activity, and in providing the correct three-dimensional spatial orientation of binding and active sites. These regions can tolerate only relatively conservative substitutions or no substitutions. Related literature, such as Lehmann-Horn et al. discuss mutations in *potassium* channels that cause a wide spectrum of hereditary and somatic conditions and diseases. For example, the ***single*** mutation of a valine residue to a phenylalanine residue at position 174 in the human Kv1.1 gene results in episodic ataxia type 1 (see Table 12; also pg 1333, ¶ 2; pg 1346-1349; pg 1350-1351). Applicant has provided little or no guidance beyond the mere presentation of sequence data to enable one or ordinary skill in the art to determine, without undue experimentation, the positions in the TRAAK protein and DNA which are tolerant to change and the nature and extent of changes that can be made in these positions.

The fact pattern in the instant application is not inconsistent with *Ex parte Forman.* Although the specification of the instant application outlines the claimed method at pg 14-19, this is not adequate guidance, but is merely an invitation to the artisan to use the current invention as a starting point for further experimentation. Additionally, as was found in Ex parte Hitzeman, 9 USPQ2d 1821 (BPAI 1987), a single embodiment may provide broad enablement in cases involving predictable factors such as mechanical or electrical elements, but more will be required in cases that involve unpredictable factors such as most chemical reactions and physiological activity. See also In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970); Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 927 F.2d 1200, 1212, 18 USPQ2d 1016, 1026

(Fed. Cir.), cert. denied, 502 U.S. 856 (1991). The present invention is unpredictable and complex wherein one skilled in the art may not necessarily modulate the activity of a purified TRAAK channel or derivatives with a substance. The claimed method utilizes routine screening techniques, but the results of the method are unpredictable and complex when combined with the step of transferring all possible nucleic acid sequences that encode TRAAK or its derivatives into a cellular host and contacting the cellular host with all possible substances.

Furthermore, claim 33 recites the new limitation in step (b) that the cellular host is cultured under conditions for expression of TRAAK potassium channel exclusively in brain, cerebellum, spinal cord, and retina neuronal tissues. The Examiner has interpreted this claim to read on a method of using a transgenic animal, which is not enabled in the instant application. Applicant indicates that the "cellular host" can be selected from among the prokaryotes or the eukaryotes and especially among the bacteria, yeasts, and mammal, plant or insect cells" (pg 8, lines 11-13). Applicant continues to disclose at pg 8, lines 16-18 of the specification that the invention pertains to the cellular hosts, more specifically, the "transformed cells expressing the potassium channels exhibiting the properties and structure of the type of TRAAK channel cells obtained in accordance with the preceding processes". However, transformed host *cells* will not express TRAAK potassium channel exclusively in brain, cerebellum, spinal cord, or retina neural tissues because cells do not contain tissues. However, a transgenic animal may express TRAAK potassium channel exclusively in brain, cerebellum, spinal cord, or retina neural tissues. Please note that this issue of the enablement rejection may be overcome by removing the phrase "exclusively in brain, cerebellum, spinal cord, or retina neural tissues" from claim 33(b).

Proper analysis of the Wands factors was performed in the previous Office Action. Due to the large quantity of experimentation necessary to generate the infinite number of derivatives recited in the claims and to screen all possible mechanosensitive potassium channels and their derivatives with all possible substances, the lack of direction/guidance presented in the specification regarding which structural features are required in order to provide activity, the absence of working examples directed to same, the complex nature of the invention, the state of the prior art which establishes the unpredictability of the effects of mutation on protein structure and function, and the breadth of the claims which fail to recite any limitations as to the protein to be screened, undue experimentation would be required of the skilled artisan to make and/or use the claimed invention in its full scope.

11. Claims 9, 31-33, and 37-38 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the claims are directed to a method screening substances capable of modulating the activity of a purified TRAAK channel protein which comprises (a) transferring a purified nucleic acid sequence or a functionally equivalent derivative that encodes TRAAK potassium channel protein; (b) culturing the host under conditions for expression of TRAAK potassium channel; (c) reacting selected amounts of the substance to be screened with the cellular host; and (d) measuring the effect of the substance to be screened on a potassium channel expressed by the cellular host. The claims also recite that the purified nucleic acid sequence

comprises the sequence between nucleotides 484-1596 of the sequence set forth in SEQ ID NO: 2. The claims recite that the claimed process screens substances capable of preventing or treating heart disease or central nervous system disease in mammals.

The specification of the instant application discloses that the TREK-1 channel (SEQ ID NO: 4) and the TRAAK channel (SEQ ID NO: 2) are activated by tension applied to a cell membrane or by the application of polyunsaturated fatty acids, such as arachidonic acid (pg 15-19; Figures 6-9). The specification also teaches the TRAAK nucleic acid sequence of SEQ ID NO: 1 (Figure 1). However, the description of one TRAAK polynucleotide species (SEQ ID NO: 1) and one TRAAK polypeptide species (SEQ ID NO: 2) is not adequate written description of an entire genus of functionally equivalent polynucleotides and polypeptides which incorporate all variants and fragments of TRAAK. Again, it is noted that the claims read on any TRAAK channel protein and any functional and non-functional derivatives, which can encompass proteins with diverse amino acid and nucleic acid sequences.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed"* (See page 1117). The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed" (See *Vas-Cath* at page 1116).

With the exception of the sequences referred to above, the skilled artisan cannot envision the detailed chemical structure of the encompassed nucleic acid molecules, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity

or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The nucleic acid itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only an isolated nucleic acid molecule consisting of the nucleotide sequence of SEQ ID NO: 1 or nucleotides 284-1477 of SEQ ID NO: 1 and a nucleic acid molecule which encodes a polypeptide consisting of the amino acid sequence of SEQ ID NO:2, but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

35 USC § 112, second paragraph

12. Claims 8-9, 31-35, and 37-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Regarding claims 31-33 and 37-38, the acronym "TRAAK" renders the claims vague and indefinite. Abbreviations should be spelled out in all independent claims for clarity.

14. Claim 9 is rejected as being indefinite because it cannot be determined what nucleic acid sequence is encompassed by the claim. Specifically, the claim refers to nucleotides 484 to 1576

of SEQ ID NO: 2. However, SEQ ID NO: 2 is an amino acid sequence and not a nucleotide sequence. Also, the significance of nucleotides 484-1576 is not clear.

15. Claims 8-9, 31-35, 37-38 are indefinite because the claims do not have a step that clearly relates back to the preamble. For example, there is no step indicating how the effect or activity measured has to change in order to identify a substance. Would there be an increase in activity? A decrease? Does the result depend upon the type of substance administered? The basis for this rejection is set forth for claims 31-38 at pg 8 of the previous Office Action (Paper No. 12, 19 June 2002).

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons. Applicant asserts that claims 31-35 have been amended substantially in accordance with examiner's suggestions. Applicant's arguments have been fully considered but are not found to be persuasive. Claims 8-9, 31-35, and 37-38 still do not recite a step that related back to the preamble. For example, the following phrase could be added after part (d) of each claim: "wherein an increase or decrease in potassium current indicates modulation of activation of said channel".

16. The term "activity" in claims 31-38 is a relative term which renders the claims indefinite. The term " activity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear what activity is being modulated. For example, does the term "activity" mean binding? Proliferation? Differentiation? Potassium

currents? The basis for this rejection is set forth for claims 31-38 at pg 8 of the previous Office Action (Paper No. 12, 19 June 2002).

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons. Applicant asserts that "activity" refers to potassium channel currents. Applicant contends that one of skill in the art readily understands that, when the modulation of the TRAAK channel is measured, the potassium current is tested. Applicant refers to Figures 7 and 9 of the specification. Applicant's arguments have been fully considered but are not found to be persuasive because it is inappropriate to read limitations in the specification into the claims. The claims must independently define the invention for which patent protection is sought.

17. The term "effect" in claims 31-38 is a relative term which renders the claims indefinite. The term "effect" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is not clear what effect is being measured. Binding? Proliferation? Differentiation? Potassium currents? The basis for this rejection is set forth for claims 31-38 at pg 8 of the previous Office Action (Paper No. 12, 19 June 2002).

Applicant's arguments (Paper No. 15, 23 December 2002), as they pertain to the rejections have been fully considered but are not deemed to be persuasive for the following reasons. Applicant asserts that "effect" refers to potassium channel currents. Applicant contends that one of skill in the art readily understands that, when the modulation of the TRAAK channel is measured, the potassium current is tested. Applicant refers to Figures 7 and 9 of the specification. Applicant's arguments have been fully considered but are not found to be

persuasive because it is inappropriate to read limitations in the specification into the claims. The claims must independently define the invention for which patent protection is sought.

Conclusion

No claims are allowable.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bridget E. Bunner whose telephone number is (703) 305-7148. The examiner can normally be reached on 8:30-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz can be reached on (703) 308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 872-9305.

BEB
Art Unit 1647
March 23, 2003

Gary d. Kunz

GARY KUNZ
SUPERVISORY PATENT EXAMINER
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